MAHATMA GANDHI MISSION DENTAL COLLEGE & HOSPITAL
Accredited by NAAC with "A++" Grade
Plot No. 1 & 2 Sector-01 (Old 18 & 19), Kamothe, Navi Mumbai- 410209
E-Mail ID: mgmdch@mgmmumbai.ac.in

Title: Research training program on "Comprehensive overview and hands on session on Intraoral scanner and implant design software"
Target audience: Researchers and faculty
Date: 7th October 2024
Time : 10 am to 3.30 pm
Venue : Lecture halls, Training center of VEDAS Lab

REPORT

The field of dental technology has witnessed significant advancements in recent years, especially with the introduction of intraoral scanners and implant design software. These innovations are transforming the way dental professionals diagnose, plan, and treat patients. To keep up with these developments and improve clinical workflows, it is essential for dental practitioners, researchers, and technicians to be familiar with these cutting-edge tools. Keeping this in view, MGM Dental College and Hospital organized the research training program focused on the comprehensive understanding and hands-on experience with intraoral scanners and implant design software. The program aimed to equip participants with both theoretical knowledge and practical skills required to leverage these technologies in modern dentistry.

Objectives of the Training Program: The training program was designed with the following objectives:

1. **Comprehensive Overview of Intraoral Scanners:** To provide participants with a detailed understanding of how intraoral scanners work, their clinical applications, and how they compare to traditional impression methods.

2. **Introduction to Implant Design Software:** To introduce participants to implant planning and design software, highlighting its role in the accurate placement of dental implants.

3. **Hands-On Experience:** To enable participants to operate intraoral scanners and implant design software through practical, real-life simulation exercises.

4. **Improved Clinical Decision-Making:** To enhance participants' ability to make precise decisions regarding implant placement and digital impression management.

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PROGRAM STRUCTURE:

1. **Theoretical Sessions:**

   o **Session 1: Introduction to Intraoral Scanners**

      ▪ *Overview:* A detailed explanation of intraoral scanning technology, including how digital impressions are captured, processed, and transferred to other digital tools.

      ▪ *Content:*

         ▪ Types of intraoral scanners (optical, laser, and structured light)

         ▪ Advantages over traditional impression techniques (e.g., accuracy, comfort, speed)

         ▪ Clinical applications in restorative dentistry, orthodontics, and prosthetics

         ▪ Data management, storage, and sharing

   o **Session 2: Implant Design Software**

      ▪ *Overview:* An introduction to implant design software, focusing on its application in planning and placing dental implants.

      ▪ *Content:*

         ▪ Basic concepts of implant placement and anatomy

         ▪ Overview of popular implant design software (e.g., 3Shape, Exocad, Implant Studio)

         ▪ Step-by-step workflow from diagnosis to implant design

         ▪ Key features such as digital visualization, virtual surgical planning, and prosthetic design

2. **Hands-On Training:**

   o **Session 3: Intraoral Scanner Practice**

      ▪ Participants were given the opportunity to use intraoral scanners to capture digital impressions of patients' oral cavities. They practiced:

         ▪ Correct positioning and scanning technique

         ▪ Scanning difficult areas such as posterior regions and occlusal surfaces

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- Data integration with CAD software for restorative treatments
- Trainers provided feedback on common challenges and troubleshooting tips.

- o **Session 4: Implant Design Software Simulation**
    - Participants worked with a variety of implant design software to simulate the planning and design of dental implants.
    - Key activities included:
        - Importing digital impressions and CBCT (Cone Beam Computed Tomography) scans
        - Virtual implant placement and analysis of bone density and volume
        - Design of custom abutments and prostheses
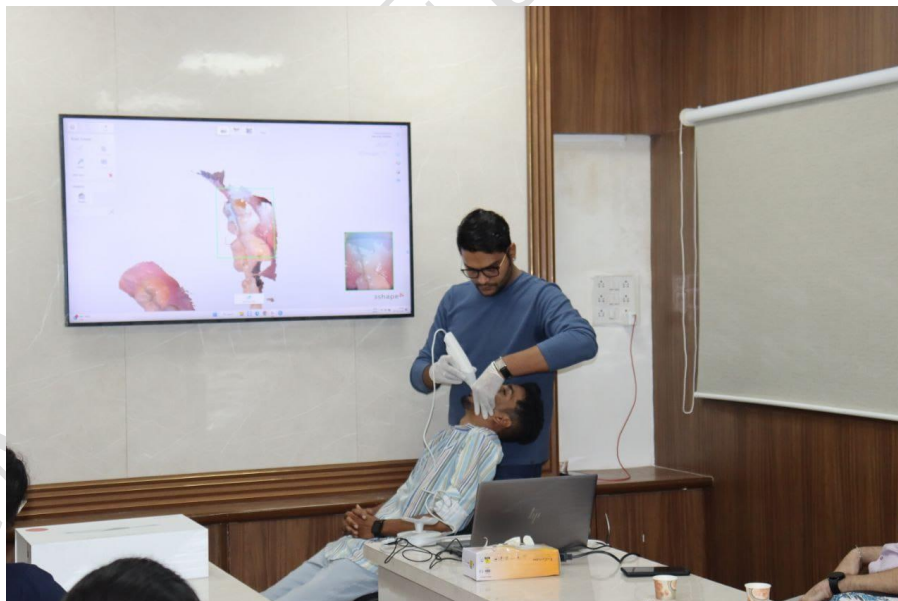   - Simulated surgical guides for precise implant placement in clinical settings

The research training program on intraoral scanners and implant design software was a highly successful initiative, equipping participants with both theoretical knowledge and practical skills needed to leverage digital technologies in modern dentistry. The hands-on experience provided invaluable insights into the application of these tools in clinical practice, highlighting their benefits in improving the precision, speed, and overall quality of dental treatments. The program also fostered a better understanding of the importance of digital tools in transforming dental workflows and the role they play in advancing clinical decision-making.

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PHOTOGRAPHS

DETAILED EXPLANATION OF INTRAORAL SCANNING TECHNOLOGY BY EXPERT

DEMONSTRATION OF USE INTRAORAL SCANNERS TO CAPTURE DIGITAL IMPRESSION

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